

Listing of Claims

1. (Currently Amended) A transgenic plant comprising a plant transformation vector comprising a nucleotide sequence that encodes or is complementary to a sequence that encodes a HIO30 polypeptide having at least 95% sequence identity with comprising the amino acid sequence of SEQ ID NO:2, or an ortholog thereof wherein the HIO30 polypeptide can alter the oil phenotype of the transgenic plant, whereby the transgenic plant has a high oil phenotype relative to the non-transgenic control plants plant.

2. (Original) The transgenic plant of Claim 1, which is selected from the group consisting of rapeseed, soy, corn, sunflower, cotton, cocoa, safflower, oil palm, coconut palm, flax, castor and peanut.

3. (Original) A plant part obtained from the plant according to Claim 1.

4. (Original) The plant part of Claim 3, which is a seed.

5. (Original) A method of producing oil comprising growing the transgenic plant of Claim 1 and recovering oil from said plant.

6. (Currently Amended) A method of producing a high oil phenotype in a plant, said method comprising:

a) introducing into progenitor cells of the plant a plant transformation vector comprising a nucleotide sequence that encodes or is complementary to a sequence that encodes a HIO30 polypeptide having at least 95% sequence identity with comprising the amino acid sequence of SEQ ID NO:2, or an ortholog thereof wherein the HIO30 polypeptide can alter the oil phenotype of the transgenic plant, and

b) growing the transformed progenitor cells to produce a transgenic plant, wherein said polynucleotide-nucleotide sequence is expressed, and said transgenic plant exhibits an altered oil content phenotype relative to a non-transgenic control plants plant.

7. (Original) A plant obtained by a method of Claim 6.

8. (Original) The plant of Claim 7, which is selected from the group consisting of rapeseed, soy, corn, sunflower, cotton, cocoa, safflower, oil palm, coconut palm, flax, castor and peanut.

9. – 11. (Canceled)

12. (New) An isolated HIO30 polypeptide having at least 95% sequence identity with SEQ ID NO:2.

13. (New) A transgenic plant comprising a plant transformation vector comprising a nucleotide sequence that encodes or is complementary to a sequence that encodes a HIO30 polypeptide having at least 95% sequence identity with SEQ ID NO:2.

14. (New) The transgenic plant of Claim 13, which is selected from the group consisting of rapeseed, soy, corn, sunflower, cotton, cocoa, safflower, oil palm, coconut palm, flax, castor and peanut.

15. (New) A plant part obtained from the plant according to Claim 13.

16. (New) The plant part of Claim 15, which is a seed.

17. (New) A method of producing oil comprising growing the transgenic plant of Claim 1 and recovering oil from said plant.

18. (New) A method of producing a high oil phenotype in a plant, said method comprising:

introducing into progenitor cells of the plant a plant transformation vector comprising a nucleotide sequence that encodes or is complementary to a sequence that encodes a HIO30 polypeptide having at least 95% sequence identity with SEQ ID NO:2, and

growing the transformed progenitor cells to produce a transgenic plant, wherein said nucleotide sequence is expressed.

19. (New) A plant obtained by a method of Claim 18.

20. (New) The plant of Claim 18, which is selected from the group consisting of rapeseed, soy, corn, sunflower, cotton, cocoa, safflower, oil palm, coconut palm, flax, castor and peanut.